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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,348

07/06/2006

Masashi Onishi

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2612

32294

7590

08/21/2009

SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

EWALD, MARIA VERONICA

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

08/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,348	Applicant(s) ONISHI, MASASHI	
	Examiner MARIA VERONICA D. EWALD	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2006 and 31 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/6/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 8 – 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Crosby (U.S. 2,381,866). Crosby teaches a molding machine having induction heating means (item 25 – figure 1; page 2, column 2, lines 50 – 60) for heating at least one part to be heated by induction heating, wherein said induction heating means includes an inducting heating part provided in said part to be heated (item 10 – figure 1; page 2, column 1, lines 50 – 75), and an electric power supply control part that controls an amount of electric power supplied to the induction heating part (page 2, column 1, lines 50 – 60 and 70 – 75), and said electric power supply control part controls an electric power supplied to the induction heating part according to either one of a frequency control and an electric current control (page 2, column 1, lines 50 – 55 and 70 – 75).

With respect to claim 8, Crosby teaches a temperature control method of a molding machine for heating at least one part to be heated in the molding machine by

Art Unit: 1791

induction heating, wherein a temperature control of the part to be heated is performed by controlling an amount of electric power supplied for induction heating according to either one of a frequency control and an electric current control (page 2, column 1, lines 55 – 60); wherein said frequency control is performed within a range of several Hz to several tens KHz (page 2, column 1, lines 70 – 72) and wherein said electric current control is performed at a fixed frequency within a range of several Hz to several tens KHz (page 2, column 1, lines 70 – 75).

Crosby teaches an injection molding apparatus, wherein the material in the bore of the injection cylinder is heated via a coil (item 25 – figure 1) having electrical connections thereto for supplying alternating electric current of high frequency from a generator (item 26 – figure 1), thereby heating the material in the cylinder inductively. The current supplied to the coil is preferably a frequency of 1000 to 3000 to induce heating of the resin material to between 300° – 700°F. Thus, the part to be heated (the injection cylinder) is inductively heated as claimed and the temperature control of the part to be heated is performed via control of the electric current to the coil.

Claims 1 – 4 and 8 – 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Akers, et al. (U.S. 7,028,746). Akers, et al. teach a molding machine having induction heating means for heating at least one part to be heated by induction heating, wherein said induction heating means (item 23 – figure 1) includes an induction heating part provided in said part to be heated (column 7, lines 45 – 60), and an electric power supply control part that controls an amount of electric power supplied to the induction

Art Unit: 1791

heating part (column 9, lines 15 – 40) and said electric power supply control part controls an electric power supplied to the induction heating part according to either one of a frequency control and an electric current control (column 9, lines 15 – 25 and 35 – 45); wherein said part to be heated corresponds to a plurality of locations of a heating cylinder (figure 1), said electric power supply control part has a heating part controlling inverter to which an electric power is supplied from a direct current power source part (column 8, lines 60 – 67; column 9, lines 1 – 5) and the heating part controlling inverter performs said frequency control or electric current control (column 8, lines 60 – 67; column 9, lines 1 – 5); wherein said heating part controlling inverter performs said frequency control within a range of several Hz to several tens KHz (column 8, lines 40 – 60); and wherein said heating part controlling inverter performs said electric current control using a fixed frequency within a range of several Hz to several tens KHz (column 8, lines 40 – 60).

With respect to claims 8 – 10, Akers, et al. teach a temperature control method of a molding machine for heating at least one part to be heated in the molding machine by induction heating, wherein a temperature control of the part to be heated is performed by controlling an amount of electric power supplied for induction heating according to either one of frequency control and an electric current control (column 9, lines 15 – 25 and 35 – 55); wherein said frequency control is performed within a range of several Hz to several tens KHz (column 8, lines 4 – 20); wherein said electric current control is performed at a fixed frequency within a range of several Hz to several tens KHz (column 8, lines 4 – 20).

Art Unit: 1791

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akers, et al. in view of Koyama (U.S. 5,582,756). Akers, et al. teach the characteristics previously described but do not teach that the molding machine has one or more motors such that the motor is configured to be supplied with an electric power through a motor controlling inverter from a direct current electric power source part for motor control, and said motor controlling electric power source part is used commonly as said direct current electric power source part; wherein a switch is provided to at least one of said heating part controlling inverter and said motor controlling inverter or wherein a voltage adjustment circuit is provided on an input side of said heating part controlling inverter.

In a heater control device for an injection molding machine, Koyama teaches a heater control circuit comprised of a dc power source used to control a servomotor (item M – figure 1). There is a semiconductor switching circuit (item 4 – figure 1) interposed between the dc power source and heater (item 5 – figure 1). Thus, the electric power source, via the switch, controls the heater device and the motor. A temperature sensor is mounted on the molding machine and sends a detection signal to the controller (item 7 – figure 1), which converts the signal into a temperature feedback value, thereby

Art Unit: 1791

adjusting the temperature against a set value (column 2, lines 65 – 67; column 3, lines 1 – 3).

Thus, the same dc power source supplies electric current to the heater and the motor (column 4, lines 10 – 15), thereby eliminating the addition of mounting a special power source circuit to supply power to the heater (column 4, lines 15 – 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to configure the apparatus of Akers, et al. with the heater control of Koyama for the purpose of using the same power source for both the motor and heater, which thereby eliminates the need for an additional power circuit to supply electric current to the heater, as taught by Koyama.

Information Disclosure Statement

15. The prior art made of record, though not relied upon, is deemed pertinent to the state of the art and thus, has been considered.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA VERONICA D. EWALD whose telephone number is (571)272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone

Art Unit: 1791

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

/Maria Veronica D Ewald/
Primary Examiner, Art Unit 1791